

**In the Claims:**

This listing of claims will replace all prior versions and listings of claims in the application.

Claims 1-40 (canceled)

41. (New) A method for ex-vivo treatment of a blood product, comprising treating a blood product with carbon monoxide.

42. (New) The method of claim 41 wherein said blood product is at least one of whole blood and a blood component.

43. (New) The method of claim 42 wherein said blood component is selected from the group consisting of platelets, plasma, and blood stem cells.

44. (New) The method of claim 41, wherein said treating comprises placing the blood product in an atmosphere containing at least about 40% carbon monoxide.

45. (New) The method of claim 44, wherein said atmosphere comprises carbon monoxide at a concentration in the range of about 40% to about 100%.

46. (New) The method of claim 41, wherein said treated blood product is stored at a suitable temperature.

47. (New) The method of claim 46, wherein the viability of said stored, treated blood product is extended compared to stored, untreated blood product.

48. (New) The method of claim 42, wherein said treated whole blood is separated into at least one blood component selected from the group consisting of platelets, plasma, and blood stem cells.

49. (New) The method of claim 48, wherein said at least one blood component is further treated with carbon monoxide.

50. (New) The method of claim 41, further comprising, after said treating step, the step of promoting atmospheric exchange of air for carbon monoxide in said treated blood product.

51. (New) The method of claim 50, wherein said promoting step is performed by exposing said treated blood product to air for a sufficient time to allow gas exchange to occur.

52. (New) The method of claim 50, wherein said promoting step further comprises illuminating said treated blood product with light having a wavelength of at least 400 nm in the presence of oxygen.

53. (New) The method of claim 44, wherein said treating step optionally further comprises adding a pH buffering substance to said blood product.

54. (New) The method of claim 53, wherein said pH buffering substance comprises bicarbonate.